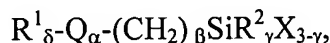


**In the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A composition for use as a stationary phase in chromatography comprising an inorganic substrate that is modified with at least one silane having the formula



wherein  $R^1$  is hydrogen,  $C_1 - C_{100}$  substituted or unsubstituted hydrocarbyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein the substituents are selected from  $C_1 - C_{12}$  hydrocarbyl, hydroxyl, alkoxy, halogen, amino, nitro, sulfo, and carbonyl;

$\alpha$  is 0 or 1;

$\beta$  is 0-30;

$\gamma$  is 0, 1 or 2;

$\delta$  is 0-3;

$R^2$  is  $C_1 - C_{100}$  substituted or unsubstituted hydrocarbyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein the substituents are selected from  $C_1 - C_{12}$  hydrocarbyl, hydroxyl, alkoxy, halogen, amino, nitro, sulfo, and carbonyl;

Q is independently selected from -NHC(O)-, -C(O)NH-, -OC(O)NH-, -NHC(O)O-, -NHC(O)NH-, -NCO-, -CHOHCHOH-, -CH<sub>2</sub>OCHCH<sub>2</sub>O-, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>-, -(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>-, -C(O)-, -C(O)O-, -OC(O)-, CH<sub>3</sub>C(O)CH<sub>2</sub>-, -S-, -SS-, -CHOH-, -O-, -SO-, -SO<sub>2</sub>-, -SO<sub>3</sub>-, -OSO<sub>3</sub>-, -SO<sub>2</sub>NH-, -SO<sub>2</sub>NMe-, -NH-, -NMe-, -NMe<sub>2</sub><sup>+</sup>-, -N[(CH<sub>2</sub>)<sub>n</sub>]<sub>2</sub><sup>+</sup>-, -CN-, -NC-, -CHOCH-, -NHC(NH)NH-, -NO<sub>2</sub>-, -NO-, -OPO<sub>3</sub>-, where n is 1-30; and

X is a leaving group; and

wherein said inorganic substrate is equilibrated in an atmosphere having a defined relative humidity of less than ~~50%~~ 40% prior to being modified with the at least one silane, sufficiently to minimize anion exchange activity and enhance stability to base and acid treatment.

2. (original) The composition of claim 1, wherein the inorganic substrate is a metal oxide or metalloid oxide.

3. (original)            The composition of claim 2, wherein the inorganic substrate is in the form of a monolith or porous particles.
4. (original)            The composition of claim 2, wherein the inorganic substrate comprises silica.
5. (original)            The composition of claim 3, wherein said porous particles have an average pore diameter from about 60 Å to about 1000 Å.
6. (original)            The composition of claim 3, wherein said porous particles have an average particle size from about 3 µm to about 60 µm.
7. (canceled)
8. (original)            The composition of claim 1~~7~~, wherein the atmosphere having a defined relative humidity is provided by hydrated salts or saturated salt solutions.
9. (original)            The composition of claim 4, wherein the inorganic substrate comprises silica gel modified with at least two silanes.
10. (original)           The composition of claim 9, wherein the silica gel is modified with a first silane, and subsequently the silica gel substrate is modified with a second silane.
11. (original)           The composition of claim 10, wherein the first or second silane or both the first and the second silanes comprises a mixture of silanes.
12. (original)           The composition of claim 9, wherein the silica gel substrate is modified with at least one silane wherein  $\delta$  is from 0 to 3, and at least one additional silane

wherein  $\delta$  is 0 or 1.

13. (original) The composition of claim 9, wherein the additional silane is an endcapping silane.

14. (original) The composition of claim 13 9, wherein the endcapping silane is a monosilane, disilane, trisilane or tetrasilane, or a combination thereof.

15. (original) The composition of claim 14, wherein the monosilane is trimethylchlorosilane, N,N-dimethyltrimethylsilylamine, trimethylsilylimidazole, dimethyldichlorosilane, dimethoxydimethylsilane, trimethylsilanol, trimethylsilylphosphine, or N-trimethylsilylacetamide.

16. (original) The composition of claim 14, wherein the disilane is hexamethyldisilazane or 1,3-dimethoxytetramethyldisiloxane.

17. (original) The composition of claim 14, wherein the trisilane is hexamethylcyclotrisiloxane.

18. (original) The composition of claim 14, wherein the tetrasilane is octamethylcyclotetrasiloxane.

19. (original) The composition of claim 1, wherein X is halogen, alkoxy, amino, or acyloxy.

20. (original) The composition of claim 1, wherein Q, R<sup>1</sup> or R<sup>2</sup> is a chiral recognition ligand.

21. (original) The composition of claim 20, wherein the chiral recognition ligand

is optically active.

22. (original) The composition of claim 20, wherein the chiral recognition ligand is a cyclodextrin.

23. (original) The composition of claim 9, wherein the silica gel is modified by the following steps:

- (a) equilibrating the silica gel in an atmosphere having a defined relative humidity;
- (b) modifying the silica gel with at least one silane; and
- (c) further modifying the silica gel with an endcapping silane.

24. (original) The composition of claim 23, further comprising the step of modifying the silica gel with a second silane.

Claims 25 - 39 (canceled)

40. (original) The composition of claim 1, wherein the inorganic substrate is modified by the following steps:

- a) equilibrating the inorganic substrate in an atmosphere having a defined relative humidity;
- b) modifying the inorganic substrate with at least one silane; and
- c) further modifying the inorganic substrate with an endcapping silane.

41. (original) The composition of claim 1, wherein the retention time, peak symmetry and retention factor for analytes separated on said stationary phase varies by no more than about 5% even when exposed to acidic or basic elution conditions for 3000 hours.

42. (original) The composition of claim 10, wherein the first silane has a value for  $\delta$  of 1,  $\alpha$  is 1,  $\beta$  is 1-30,  $\gamma$  is 0, 1, or 2,  $R^1$  is a substituted or unsubstituted  $C_1 - C_{30}$  hydrocarbyl, Q is amido or carbamyl, and the second silane has a value for  $\delta$  of 1,  $\alpha$  is 1,  $\beta$  is 1-

30,  $\gamma$  is 0, 1, or 2,  $R^1$  is a substituted or unsubstituted  $C_1 - C_6$  hydrocarbyl, and Q is amido, carbamyl, cyano or glycidoxo.

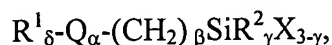
43. (original) The composition of claim 10, wherein the first silane has a value for  $\delta$  of 1,  $\alpha$  is 0,  $\beta$  is 8-30,  $\gamma$  is 0, 1 or 2,  $R^1$  is H, and the second silane has a value for  $\delta$  of 1,  $R^1$  is a substituted or unsubstituted  $C_1 - C_6$  hydrocarbyl, and Q is amido, cyano or glycidoxo.

44. (original) The composition of claim 10, wherein the first silane has a value for  $\delta$  of 1,  $\alpha$  is 0,  $\beta$  is 8-30,  $\gamma$  is 0, 1 or 2,  $R^1$  is H, and the second silane has a value for  $\delta$  of 1,  $R^1$  is a substituted or unsubstituted  $C_1 - C_6$  hydrocarbyl, and Q is thio, dithio, ether, sulfinyl, sulfonyl, sulfonic acid, sulfate, sulfonamido, amino, nitrile, isonitrile, epoxy, guanidino, nitro, nitroso, or phosphate.

45. (currently amended) The composition of claim 1, wherein the relative humidity is from about 0% to about 10%, from about 10% to about 20%, from about 20% to about 30%, or from about 30% to about 40%, ~~or from about 40% to about 50%.~~

Please add the following new claim:

46. (new) A composition for use as a stationary phase in chromatography comprising an inorganic substrate that is modified with at least two silanes having the formula



wherein  $R^1$  is hydrogen,  $C_1 - C_{100}$  substituted or unsubstituted hydrocarbyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein the substituents are selected from  $C_1 - C_{12}$  hydrocarbyl, hydroxyl, alkoxy, halogen, amino, nitro, sulfo, and carbonyl;

$\alpha$  is 0 or 1;

$\beta$  is 0-30;

$\gamma$  is 0, 1 or 2;

$\delta$  is 0-3;

$R^2$  is  $C_1 - C_{100}$  substituted or unsubstituted hydrocarbyl, cycloalkyl, heterocycloalkyl, aryl, or heteroaryl; wherein the substituents are selected from  $C_1 - C_{12}$  hydrocarbyl, hydroxyl, alkoxy, halogen, amino, nitro, sulfo, and carbonyl;

Q is independently selected from -NHC(O)-, -C(O)NH-, -OC(O)NH-, -NHC(O)O-, -NHC(O)NH-, -NCO, -CHOHCHOH-, -CH<sub>2</sub>OCHCH<sub>2</sub>O-, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>-, -(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>-, -C(O)-, -C(O)O-, -OC(O)-, CH<sub>3</sub>C(O)CH<sub>2</sub>-, -S-, -SS-, -CHOH-, -O-, -SO-, -SO<sub>2</sub>-, -SO<sub>3</sub>-, -OSO<sub>3</sub>-, -SO<sub>2</sub>NH-, -SO<sub>2</sub>NMe-, -NH-, -NMe-, -NMe<sub>2</sub>+-, -N[(CH<sub>2</sub>)<sub>n</sub>]<sub>2</sub>+-, -CN, -NC, -CHOCH-, -NHC(NH)NH-, -NO<sub>2</sub>, -NO, -OPO<sub>3</sub>-, where n is 1-30; and

X is a leaving group.